

### **C. Amendments to the Claims**

1. (Withdrawn.) A hydrogen gas generation and collection system comprising:
  - a holding tank providing a reservoir of hydroxide solution;
  - a gas generating tank in fluid flow communication with said reservoir, said generating tank comprising a plurality of metallic fuel rods;
  - means for pressurizing the holding tank;
  - means for transferring hydroxide solution into the gas generating tank from said holding tank in response to pressure to start a gas generating reaction in said generating tank;
  - means for selectively pressurizing said generating tank to return hydroxide solution within the gas generating tank back into said holding tank to stop said reaction;
  - a humidifier tank in fluid flow communication with said generating tank for receiving hydrogen gas from said generating tank and for humidifying it; and,
  - means for delivering humidified hydrogen from said humidifier tank to an application.
2. (Withdrawn.) The gas generation and collection system of claim 1 wherein said fuel rods are tubular.
3. (Withdrawn.) The gas generation and collection system of claim 2 wherein said fuel rods are aluminum.
4. (Withdrawn.) The gas generation and collection system of claim 1 wherein the hydroxide solution comprises potassium hydroxide.
5. (Withdrawn.) The gas generation and collection system of claim 4 wherein the hydroxide solution comprises approximately 25% potassium hydroxide by weight.
6. (Withdrawn.) The gas generation and collection system of claim 1 wherein said holding tank comprises means for heating the hydroxide solution.
7. (Withdrawn.) The gas generation and collection system of claim 6 wherein the temperature of the holding tank hydroxide solution is approximately 180 degrees Fahrenheit.

8. (Withdrawn.) The gas generation and collection system of claim 7 wherein said fuel rods are tubular.

9. (Withdrawn.) The gas generation and collection system of claim 8 wherein the hydroxide solution comprises approximately 25% potassium hydroxide by weight.

10. (Withdrawn.) A hydrogen gas generation and collection system comprising:

- a holding tank providing a reservoir of hydroxide solution, said holding tank comprising means for heating the hydroxide solution;

- a gas generating tank in fluid flow communication with said reservoir, said generating tank comprising a plurality of internal metallic fuel rods;

- means for pressurizing the holding tank to transfer hydroxide solution into the gas generating tank from said holding tank thereby generating gas in said generating tank;

- means for selectively pressurizing said generating tank to return hydroxide solution within the gas generating tank back into said holding tank to stop gas generation;

- a humidifier tank in fluid flow communication with said generating tank for receiving hydrogen gas from said generating tank and for humidifying it;

- means for delivering humidified hydrogen gas from said humidifier tank to an application for powering the application, the application producing exhaust;

- a condenser for receiving said exhaust and producing condensate; and,

- means for delivering said condensate into said holding tank.

11. (Withdrawn.) The gas generation and collection system of claim 10 wherein the application comprises an engine or fuel cell.

12. (Withdrawn.) The gas generation and collection system of claim 11 wherein said metallic fuel rods are

13. (Withdrawn.) The gas generation and collection system of claim 10 wherein the hydroxide solution comprises approximately 25% potassium hydroxide by weight.

14. (Withdrawn.) The gas generation and collection system of claim 13 wherein the temperature of the holding tank hydroxide solution is approximately 180 degrees Fahrenheit.

15-20. (Cancelled).

21 (New). A method for generating hydrogen gas, the method comprising the steps of:

providing a reservoir of hydroxide solution;

heating the hydroxide solution within said reservoir to raise the temperature of the hydroxide solution to approximately 180 degrees Fahrenheit;

providing an upright gas generating tank in fluid flow communication with said reservoir with a gas inlet defined in its top;

equipping said generating tank with a plurality of internal, tubular, spaced-apart metallic fuel tubes;

pressurizing the reservoir;

transferring hydroxide solution into the gas generating tank from said reservoir tank in response to pressure to start a gas generating reaction in said generating tank;

selectively pressurizing said generating tank through said gas inlet to return hydroxide solution within the gas generating tank back into said reservoir to stop said reaction;

humidifying hydrogen gas from said generating tank by passing it through a separate water tank;

collecting humidified hydrogen gas from said separate water tank and delivering it to an application;

during said reaction collecting waste at the bottom of said generating tank; and,

periodically opening said generating tank to replace said fuel tubes and remove said waste.

22 (New). A method for generating hydrogen gas, the method comprising the steps of:

providing a reservoir of solution comprising at least 25% potassium hydroxide by weight;

heating the hydroxide solution within said reservoir to raise the temperature of the hydroxide solution to approximately 180 degrees Fahrenheit;

providing an upright gas generating tank in fluid flow communication with said reservoir with a gas inlet defined in its top;

equipping said generating tank with a plurality of internal, tubular, spaced-apart metallic fuel tubes;  
pressurizing the reservoir;  
transferring hydroxide solution into the gas generating tank from said reservoir tank in response to pressure to start a gas generating reaction in said generating tank;  
selectively pressurizing said generating tank through said gas inlet to return hydroxide solution within the gas generating tank back into said reservoir to stop said reaction;  
humidifying hydrogen gas from said generating tank by passing it through a separate water tank;  
collecting humidified hydrogen gas from said separate water tank and delivering it to an application;  
during said reaction collecting waste at the bottom of said generating tank; and,  
periodically opening said generating tank to replace said fuel tubes and remove said waste.

23 (New). A method for generating hydrogen gas, the method comprising the steps of:

providing a reservoir of solution comprising at least 25% potassium hydroxide by weight;  
heating the hydroxide solution within said reservoir to raise the temperature of the hydroxide solution to approximately 180 degrees Fahrenheit;  
providing an upright gas generating tank in fluid flow communication with said reservoir with a gas inlet defined in its top;  
equipping said generating tank with a plurality of internal, tubular, spaced-apart aluminum fuel tubes;  
pressurizing the reservoir;  
transferring hydroxide solution into the gas generating tank from said reservoir tank in response to pressure to start a gas generating reaction in said generating tank;  
selectively pressurizing said generating tank through said gas inlet to return hydroxide solution within the gas generating tank back into said reservoir to stop said reaction;  
humidifying hydrogen gas from said generating tank by passing it through a separate water tank;

collecting humidified hydrogen gas from said separate water tank and delivering it to an engine for powering it;  
collecting the engine exhaust and condensing water from the exhaust;  
returning water from said collecting and condensing step to said reservoir;  
during said reaction collecting waste at the bottom of said generating tank; and,  
periodically opening said generating tank to replace said fuel tubes and remove said waste.